ENVIRONMENTAL DATA QUALITY

- WHAT IS IT?
- WHY IS IT AN ISSUE?
- HOW DO YOU DETERMINE IT?
- WHO MONITORS IT?
- WHAT DECISIONS DOES IT IMPACT?

WHAT IS DATA QUALITY?

- The totality of features and characteristics of data that bears on their ability to satisfy a given purpose; the sum of the degrees of excellence for factors related to data.
  - Most commonly represented by QA/QC samples which measure sample and measurement precision, accuracy, comparability, representiveness, and completeness

IN LAYMAN TERMS

- Is the data of adequate quality to support the decision/s made?
- Is the quality of data known?
- Is the data legally defensible?
- Were QA/QC criteria successfully met?
- Were the data quality objectives obtained?
  - Health & Safety
  - Risk Management Decisions
  - Effectiveness of Remediation Activities
  - Suitability to Transfer or Lease Property

WHAT DECISIONS ARE IMPACTED?

- Good question!
  - What is the purpose of the data?
  - Is the data crucial to a particular decision?
  - Is the decision supported by more than one data set?

WHY IS IT AN ISSUE?

- Company voluntary disclosure to EPA data integrity problems at one of it’s laboratories.
- Potential data fraud has been identified starting in1991 for Superfund, (RCRA), Air Toxics, well water and groundwater monitoring, and UST clean up.

SCOPE OF IMPACT

- EPA, DOD, STATES, and private sectors.
- Number of client projects during 94-97 over 59,000.
- Number of analyses conducted potentially affected by fraud may exceed 1 Million.
- Multi-media; DOD Closure,. Superfund, Drinking/Ground Water, Explosives, UST, RCRA, NPDES, Air Toxics

QUESTIONABLE LAB PRACTICES

- Practices observed by DOD/EPA include: Dry lab'in; Peak shaving; Peak enhancing; Time traveling.
- These practices involved the deliberate direct manipulation and/or alteration of data.
- No basis for performing these practices other than to meet specific contractual requirements and avoid financial penalties.

PENALTIES FOR PRACTICES

DOD

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CONTRACTOR

EXAMPLE FRAUD INVESTIGATIVE TEAM

- EPA Office of Inspector General (EPAOIG)
- DOD Office of Inspector General (DCIS)
- DOE Office of Inspector General (DOEOIG)
- EPA Region 6 (Lab & QA Officer)
- US Air Force Office of Special Investigations (AFOSI)

EXAMPLE FRAUD INVESTIGATIVE TEAM

- US Army Criminal Investigation Division (Army CID)
- Texas Natural Resource Conservation Commission (TNRCC)
- Texas Parks and Wildlife

Conclusion; “EPA WILL…..”

- Develop training for Agency auditors/inspectors responsible for reviewing laboratory data, that would incorporate fraud detection techniques into their daily work.
- Update and enforce guidance for oversight officials to incorporate fraud awareness techniques.

Conclusion, “EPA WILL….”

- Promote ethics in environmental testing laboratories through outreach and training.
- Pursue and publicize all means of providing individuals performing environmental testing with appropriate contacts to report possible misconduct (e.g., OIG Hotline).

Conclusion, “EPA WILL….”

- Explore emerging electronic methods for screening laboratory data. Assume a leadership role on the standardization of electronic data deliverables.
- Incorporate accreditation, or a quality system demonstration, among the mandatory requirements in al program areas.

Conclusion, “EPA WILL….”

- Develop or improve guidance and training specific to the planning process to assist data users in determining laboratory QA/QC necessary and appropriate for the intended use of the data.
- Ensure information systems used to track lab data are current and complete.